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Original Research Article

Analysis of the Outcome of Surgical Interventions in Gastrointestinal Diseases in Pregnancy: A Retrospective Study in a Tertiary Care Centre in South India

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Abstract:

Introduction: The incidence of surgical disease is the same in pregnant and nonpregnant patients. A total of 1.5–2% of all pregnancies undergo nonobstetric surgical intervention.

Aim: To analyse the outcome of surgical gastroenterological interventions in pregnant women affected with gastrointestinal disorders.

Materials and Methods: Retrospective study done over a period of one year from January 2023 to December 2023 All pregnant women who underwent surgical intervention for gastrointestinal conditions were included.

Results: Around 1029 patients admitted with gastrointestinal symptoms, among them 425 patients admitted with heart burns (41.3%), 504 (48.9%) patients admitted with nausea and vomiting, 22 (2.13%) patients with very severe abdominal pain and 73 (6.9%) patients with hematemesis. Among the 73 patients who presented with hematemesis, 52 underwent endoscopic variceal band ligation. Four patients had subacute appendicitis and were treated conservatively. Out of the 22 patients, 19 patients had acute appendicitis underwent appendicectomy, two patients had adhesive intestinal obstruction and they underwent laparotomy and adhesiolysis, one patient had Bleeding GIST an underwent laparoscopic Gastric sleeve resection. Among the 19 patients who had Acute appendicitis, they all presented with acute abdominal pain of <3 days duration and they underwent appendicectomy within 48 hours of admission. The mean age of 19 patients was 24 years +/- 2 years and the mean gestational age was 15 weeks+/-2 weeks. Two patients were operated in the first trimester (10.5%), 17 patients in the second trimester. Laparoscopic surgery was performed in four patients (21.1%). On admission to the hospital, all patients had vomiting, 11 patients had generalised abdominal pain (57.89%) and eight patients had fever along with right sided lower abdominal pain (42.1%). All patients underwent ultrasound and five patients (26.31%)underwent further imaging with Magnetic resonance imaging MRI. The mean time from admission to surgery was 28 hrs +/- 3 hrs. Postoperatively two (10.5%)of the patients had Preterm delivery. Two out of 22 (9.09%) patients had adhesive intestinal obstruction due to previous surgeries hence proceeded with emergency laparotomy, one of the patients had previous history of ruptured ectopic gestation for which she had undergone salpingectomy, another patient developed adhesive intestinal obstruction due to previous lower segment caesarean section. Both of them operated in the second trimester. Intraoperative period was uneventful.

Conclusion: Surgical emergency in pregnancy if not treated this can significantly contribute to maternal and foetal morbidity and mortality. The article summarises the possible causes of surgical emergencies that can arise during pregnancy.

Keywords: Surgical Emergencies, Appendicitis.

Introduction

The incidence of surgical disease is the same in pregnant and nonpregnant patients. A total of 1.5–2% of all pregnancies undergoes nonobstetric surgical intervention. Gastrointestinal symptoms such as heartburn, nausea and vomiting, and constipation are very common during pregnancy and are mainly attributable to motility disturbances caused by increased female sex hormone levels. Presenting symptoms of surgical diseases are often similar in pregnant and nonpregnant patients which pose difficulty in diagnosing the pathology.

The most common surgical gastroenterological disorders in pregnancy are appendicitis, cholecystitis and intestinal obstruction. Imaging can be performed during pregnancy to help with the diagnosis.

The second trimester is the preferred time for nonurgent surgery but surgical procedure should not be delayed in any trimester if systemic infection or severe disease is suspected, as this is associated with higher risk to mother and fetus. Whenever possible, regional anesthesia should be performed. Multidisciplinary approach with Gastroenterologist, anesthesia, and neonatology during treatment planning is essential to ensure optimal outcomes for both the mother and fetus.

Aim

To analyse the outcome of surgical gastroenterological interventions in pregnant women affected with gastrointestinal disorders

Materials and Methods

Study design: Retrospective study done over a period of one year from January 2023 to December 2023 at Government Rajaji hospital and Madurai medical College, Madurai

Inclusion criteria: All pregnant women who underwent surgical intervention for gastrointestinal conditions

Exclusion criteria: Severe cardiac, renal disorders**,** severe preeclampsia, eclampsia and HELLP syndrome

Statistical analysis: by SPSS software version 20.0.

Methodology

A total of 74 patients underwent intervention. Detailed history including the presenting complaints, their present and past obstetric history, General and systemic examination, imaging and the intra operative findings and postoperative recovery were studied

Results

Around 1029 patients admitted with gastrointestinal symptoms, among them 425 patients admitted with heart burns (41.3%), 504 (48.9%) patients admitted with nausea and vomiting, 22 (2.13%) patients with very severe abdominal pain and 73 (6.9%) patients with hematemesis Among the 73 patients who presented with hematemesis, 52 underwent endoscopic variceal band ligation

Four patients had subacute appendicitis and were treated conservatively Out of the 22 patients who had surgical intervention, 19 patients had acute appendicitis underwent appendicectomy, two patients had adhesive intestinal obstruction and they underwent laparotomy and adhesiolysis, one patient had Bleeding GIST an underwent laparoscopic Gastric sleeve resection.

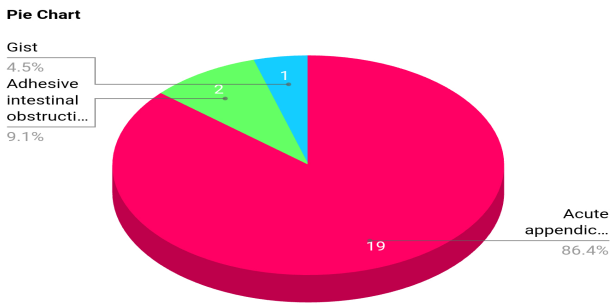

Figure 1: Causes of surgical intervention

Among the 19 patients who had Acute appendicitis, they all presented with acute abdominal pain of <3 days duration and they underwent appendicectomy within 48 hours of admission.

The mean age of 19 patients was 24 years +/- 2 years and the mean gestational age was 15 weeks+/-2 weeks. Two patients were operated in the first trimester (10.5%), 17 patients in the second trimester. Laparoscopic surgery was performed in

four patients (21.1%). On admission to the hospital, all patients had vomiting, 11 patients had generalised abdominal pain (57.89%) and eight patients had fever along with right sided lower abdominal pain (42.1%).

All patients underwent ultrasound and five patients (26.31%) underwent further imaging with Magnetic resonance imaging MRI. The mean time from admission to surgery was 28 hrs +/- 3 hrs. Postoperatively two (10.5%) of the patients had Preterm delivery.

Two out of 22 (9.09%) patients had adhesive intestinal obstruction due to previous surgeries hence proceeded with emergency laparotomy, one of the patients had previous history of ruptured ectopic gestation for which she had undergone salpingectomy, another patient developed adhesive intestinal obstruction due to previous lower segment caesarean section . Both of them operated in the second trimester. Intraoperative period was uneventful.

Discussion

All gastrointestinal disorders can present during pregnancy. Around 1-2% of women may need surgical intervention for non-obstetric reasons 1.

In a study conducted by Mukherjee et al, found that the Incidence of emergency non-obstetrical abdominal surgeries in gynaecological practice is 1 in 635 during pregnancy [2], most common indication for surgical intervention is acute appendicitis [3] and 75.8 percent of the pregnant women presented with acute abdominal pain necessitating non elective or emergency surgical intervention [4].

Acute appendicitis usually begins with poorly localised colicky abdominal pain at first at the periumbilical region which later localises in the right ileac fossa. Atypical presentation of appendicitis can be a suprapubic discomfort or tenesmus.

USG should be first investigation of choice [5]. MRI should be next investigation. Accurate and timely diagnosis is important to reduce complication. In a study conducted by Kozan et al, mean age of the patients who had undergone appendectomy during pregnancy was 30±6 years when compared to our study which is 24 years [6].

50% of the patients were in the first trimester, eight (30.8%) in the second trimester, and five (19.2%) in the third trimester and in our study, Two patients were operated in the first trimester (10.5%), 17 patients in the second trimester The incidence of intestinal obstruction during pregnancy is estimated at 1:1500 pregnancies and is diagnosed in II and III trimester in most cases.

However, it can also occur in the I trimester (6%) or puerperium. Symptoms of intestinal obstruction in pregnancy include: abdominal pains (98%), vomiting (82%), and constipation (30%). Abdominal tenderness on palpation is found in 71% and abnormal peristalsis in 55% of cases. [7] Intestinal obstruction in pregnant women is mostly caused by: adhesions (54.6%), intestinal torsion (25%), colorectal carcinoma (3.7%), hernia (1.4%), appendicitis (0.5%) and others (10%). Adhesive obstruction occurs more frequently in advanced pregnancy (6% - I trimester 28% - II trimester; 45% - III trimester 21% - puerperium).

Treatment should begin with conservative procedures. Surgical treatment may be necessary in cases where the pain turns from recurrent into continuous, with tachycardia, pyrexia and a positive Blumberg sign. In a study conducted by Mayerson et al, nine patients had small bowel obstruction and out of nine patients eight of them had developed obstruction because of previous abdominal surgeries [8]

GIST occurring during pregnancy is extremely rare. However, early diagnosis is important for optimal management [9]. Those few cases reported however were symptomatic and found in the second half of the pregnancy, leading to an emergency caesarean section in one case due to fetal distress during laparotomy [10].

Conclusion

Surgical emergency in pregnancy if not treated this can significantly contribute to maternal and foetal morbidity and mortality.

The article summarises the possible causes of surgical emergencies that can arise during pregnancy.

These scenarios always should be treated in conjunction with consulting experienced obstetric recommendations and before considering the definite treatment approach, the possible maternal and foetal health hazards must be taken count for in terms of potential risks and benefits.

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